I Claim the following:

Claim 1. A differential capacitive torque sensor for a continuously rotating shaft where the shaft is split into first and second halves by a buried torsion bar comprising:
a dielectric disk having a plurality of spokes mounted for rotation with a first half of said shaft;

a pair of first and second apertured conductive disks caging said dielectric disk and mounted for rotation with said second half of said shaft said cage shielding portions of said spokes of said dielectric disk in proportion to applied shaft torque;

a pair of concentric capacitor plate rings lying in a common plane encircling said first shaft half and juxtaposed with said first apertured conductive disk;

an opposed capacitor plate encircling said second shaft half and juxtaposed with said second apertured conductive disk; and

electrical bridge means for comparing the capacitances formed between said pair of concentric rings and said opposed capacitor plate for determining said applied shaft torque.

Claim 2. A torque sensor as in claim 1 where said apertured conductive disks have identical aperture patterns which are aligned with each other.

Claim 3. A torque sensor as in claim 1 where said apertured conductive disks are electrically connected together.

Claim 4. A torque sensor as in claim 1 where said concentric plate rings have equal areas.

Claim 5. A torque sensor as in claim 1 where each apertured conductive disk includes apertures arranged in concentric rings that match the first and second concentric plate rings which encircle said first shaft half. said apertures alternating with solid conductive portions around a circle said concentric rings being offset from one another by 180 degrees so that the solid portion of one ring matches the aperture of the other.

Claim 6. A torque sensor as in claim 5 where said plurality of spokes radially extend to cover at least a portion of an aperture on each concentric ring, depending on applied torque, whereby the dielectric parameters of said capacitances are determined.

Claim 7. A torque sensor as in claim 6 where under zero torque conditions substantially one half of each aperture is covered by each spoke to provide equal values of capacitance.

Claim 8. A torque sensor as in claim 6 where when applied torque is a maximum in one rotational direction the apertures of one ring are substantially covered and the other ring apertures minimally covered and with applied maximum torque in the opposite direction the opposite covering of apertures occurs.